REMARKS

The Office Action of August 28, 2002, presents the examination of claims 9-20. Claims 10, 12, 14, 16, 18, and 20 are canceled. Claims 9, 11, 13, 15, 17, and 19 are amended. Claims 21 and 22 are added. No new matter is inserted into the application.

Rejections Under 35 U.S.C. § 112, First Paragraph

The Examiner rejects claims 15-20 under 35 U.S.C. § 112, first paragraph, for allegedly containing subject matter not enabled by the specification. Claims 16, 18, and 20 are canceled, thus rendering rejection of these claims moot. Applicants respectfully traverse the rejection applied to claims 15, 17, and 19. Reconsideration of the claims and withdrawal of the instant rejection are respectfully requested.

The Examiner asserts that the claims are not enabled for the claimed intended use of "for use in immune therapy." In order to overcome this rejection, Applicants amend independent claim 15 to delete the intended use. Thus, the instant rejection is overcome.

Rejection under 35 U.S.C. § 112, Second Paragraph

The Examiner rejects claims 14 and 20 under 35 U.S.C. § 112, second paragraph for allegedly being indefinite. Claims 14 and 20 are canceled, thus rendering the rejection moot.

Rejection under 35 U.S.C. § 102

Kim et al.

The Examiner rejects claims 9-20 under 35 U.S.C. § 102(a), for allegedly being anticipated by Kim et al. (*Cancer Immunol Immunother* 47:257-264(1999)). Claims 10, 12, 14, 16, 18, and 20 are canceled, thus rendering rejection of these claims moot. Applicants respectfully traverse the rejection applied to claims 9, 11, 13, 15, 17, and 19. Reconsideration of the claims and withdrawal of the instant rejection are respectfully requested.

Kim et al. discloses an *in vitro* method for generating tumor-specific primary cytotoxic T lymphocytes by mixing MCA205 fibrosarcoma (tumor) cells transduced with the B7.1 (CD80) gene with primary T cells in the presence of IL-2. Therefore, the method of Kim et al. requires the use of IL-2.

In contrast, the method present invention does not require the use of IL-2. Kim et al. clearly describes in lines 31-33 on the left-hand column on page 263 that "Our success in inducing primary CTL with the B7.1-transduced tumor cells in the presence of the minimal amount of IL-2 alone may have been possible…." Thus, the use of IL-2 is critical to the method of Kim et al. As such, the present invention is thoroughly different from that of Kim et al., and therefore not anticipated by Kim et al.

The rejection is improper and should be withdrawn.

Liu et al.

The Examiner also rejects claims 9-20 under 35 U.S.C. § 102(b) for allegedly being anticipated by Liu et al. (*Journal of Immunology* 156:1117-1125(1996)). Claims 10, 12, 14, 16, 18, and 20 are canceled, thus rendering rejection of these claims moot. Applicants respectfully traverse the rejection applied to claims 9, 11, 13, 15, 17, and 19. Reconsideration of the claims and withdrawal of the instant rejection are respectfully requested.

Liu et al. is also directed to a LAK process. As pointed out by Kim et al., "The only report of successful induction of primary CTL against the tumor cells of nonhematopoietic origin appeared in a study by Liu et al. The study showed that the primary CTL specific to the Lewis lung carcinoma (LLC) cell line could be successfully induced in vitro when the B7.1-transduced LLC cell line was used as stimulator in a 9-day MLTC in the presence of exogenous IL-2 and IL-4."

Therefore, the method disclosed by Liu et al. also relies on exogenous IL-2. As noted above, the present method does not require the use of IL-2. As such, the method of the present invention is thoroughly different from Liu et al., and therefore not anticipated by Liu et al.

The rejection is improper and should be withdrawn.

Conclusion

All of the stated grounds for rejection have been properly traversed, accommodated or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response as been made to the outstanding Office Action and as such the present application is in condition for allowance.

Attached hereto is a marked up version showing the changes made to the application by this Amendment.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Kristi L. Rupert, Ph.D. (Reg. No. 45,702), at the telephone number of the undersigned, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional

fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By _____
Andrew D. Meikle, #32,868

ADM/KLR
3813-0101P

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000

Attachment: Version With Markings Showing Changes Made

VERSION WITH MARKINGS SHOWING CHANGES MADE

IN THE CLAIMS:

Claims 10, 12, 14, 16, 18, and 20 are canceled.

Claims 21 and 22 are added.

The following claims are amended:

9. (Amended) A method for culturing anti-cancer lymphocytes in vitro, comprising:

incubating lymphocytes activated by an immunomodulator increasing cancer cell killing activity of said lymphocytes with cancer cells under conditions to amplify mainly NK cells, non-MHC-bound T cells, or MHC-bound killer T cells, said cancer cells being deficient for or having lower levels of class I antigen expression and expressing B7, or a combination of B7 and a cancer antigen, or a cell-binding factor,

wherein said amplified killer T cells are killer T cells specific to a cancer antigen.

11. (Amended) The method according to claim 9 [or 10], wherein said cancer cells are [deficient for or have lower levels of class I antigen expression] stimulated by class-I negative or

low-positive cancer cells or by a class-I negative cancer cell line transduced with a cancer antigen.

13. (Amended) The method according to claim 9 or 11 [10], wherein said lymphocytes are collected from peripheral blood.

15. (Amended) A composition [for use in immune therapy, said composition] comprising anti-cancer lymphocytes obtained by:

incubating lymphocytes activated by an immunomodulator increasing cancer cell killing activity of said lymphocytes with cancer cells under conditions to amplify mainly NK cells, non-MHC-bound T cells, or MHC-bound killer T cells, said cancer cells being deficient for or having lower levels of class I antigen expression and expressing B7, or a combination of B7 and a cancer antigen, or a cell-binding factor,

wherein said amplified killer T cells are killer T cells specific to a cancer antigen.

17. (Amended) The composition according to [of] claim 15 [or 16], wherein said [cancer cells are deficient for or have lower levels of class I antigen expression] lymphocytes are stimulated by class-I negative or low-positive cancer cells or by a class-I negative cancer cell line transduced with a cancer antigen.

19. (Amended) The composition according to [of] claim 15 or 17 [16], wherein said lymphocytes are collected from peripheral blood.